

Serial No: 10/064,427
Filed: July 12, 2002
Page 4 of 11

Examiner: Burton S. Mullins
Group Art Unit: 2834

Amendments to Claims

1. (Currently Amended) In an electric motor of the type comprising an internal stator, including a shaft fixedly mounted to a structural support and having multiple windings capable of reversible current flow to alter the winding polarity, and an external rotor rotatably mounted to the shaft and having multiple magnets radially spaced about the periphery of the stator, with each of the magnets having at least one predetermined pole; the improvement wherein:

the stator comprises a plurality of plates on the shaft under ~~suffieient~~ compression in a range of approximately 6×10^4 and 10×10^4 Newtons to sufficiently inhibit bending of the shaft due to external forces that would otherwise tend to cause the windings to contact the magnets.

2. (Original) The electric motor according to claim 1, wherein the plurality of plates forms a winding core that carries the multiple windings.

3. (Original) The electric motor according to claim 2, wherein the plates form winding poles with caps on the end of each pole to retain the windings on the winding poles.

4. (Currently Amended) The electric motor according to claim 1, wherein the plates are held in the compression range by at least one lock nut.

5. (Currently Amended) The electric motor according to claim 1, wherein the ~~windings are~~ plurality of plates form winding poles that define a winding axis, oriented on the core such that the winding longitudinal axis forms an acute angle relative is not parallel to the shaft longitudinal axis.

6. (Currently Amended) The electric motor according to claim 5, wherein the ~~acute winding axis is at an angle is of at least 10 degrees relative to the shaft longitudinal axis.~~

Serial No: 10/064,427
Filed: July 12, 2002
Page 5 of 11

Examiner: Burton S. Mullins
Group Art Unit: 2834

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (New) The electric motor according to claim 1 wherein the shaft has an annular shoulder and the plurality of plates is compressed between a locknut and the annular shoulder.

18. (New) The electric motor according to claim 17 wherein the locknut is threaded onto the shaft.

19. (New) The electric motor according to claim 4 wherein the locknut is threaded

Serial No: 10/064,427
Filed: July 12, 2002
Page 6 of 11

Examiner: Burton S. Mullins
Group Art Unit: 2834

onto the shaft.

20. (New) The electric motor according to claim 1 wherein the spacing between the magnets and periphery of the stator is approximately 1mm or less.

21 (New) The electric motor according to claim 20 wherein the magnets are neodymium.

22. (New) The electric motor according to claim 1 wherein the magnets are neodymium

23. (New) The electric motor according to claim 1 wherein the length of windings is less than about 20 inches.

24. (New) The electric motor according to claim 4 wherein the length of windings is less than about 20 inches.

25. (New) The electric motor according to claim 5 wherein the length of windings is less than about 20 inches.

26. (New) The electric motor according to claim 17 wherein the length of windings is less than about 20 inches.

27. (New) The electric motor according to claim 1 wherein the plurality of plates comprises approximately 980 plates.

28. (New) The electric motor according to claim 23 wherein the plurality of plates comprises approximately 980 plates.

Serial No: 10/064,427
Filed: July 12, 2002
Page 7 of 11

Examiner: Burton S. Mullins
Group Art Unit: 2834

29. (New) The electric motor according to claim 24 wherein the plurality of plates comprises approximately 980 plates.

30. (New) The electric motor according to claim 25 wherein the plurality of plates comprises approximately 980 plates.

31. (New) The electric motor according to claim 26 wherein the plurality of plates comprises approximately 980 plates.

32. (New) The electric motor according to claim 1 wherein the ratio of the length of the windings to the diameter of the external rotor is approximately 5:1.

33. (New) The electric motor according to claim 17 wherein the ratio of the length of the windings to the diameter of the external rotor is approximately 5:1.

34. (New) The electric motor according to claim 23 wherein the ratio of the length of the windings to the diameter of the external rotor is approximately 5:1.

35. (New) The electric motor according to claim 4 wherein the ratio of the length of the windings to the diameter of the external rotor is approximately 5:1.